SOUTHEASTERN LOUISIANA UNIVERSITY
DEPARTMENT OF MATHEMATICS
MATH 241 SYLLABUS

COURSE TITLE: Elementary Statistics **CREDIT:** 3 semester hours

TEXT: *Fundamentals of Statistics*, 2nd Edition by Sullivan **PUBLISHER:** Pearson Education

PREREQUISITE: Math 155 or 161.

CATALOGUE DESCRIPTION: Graphical display of data, measures of central tendency and variability, sampling theory, the normal curve, standard scores, Student's T, Chi Square, and correlation techniques.

COURSE OBJECTIVES – the section numbers in the textbook covering these objectives are given in parentheses:

Decide whether a variable is quantitative or qualitative (1.1)
Identify the population and sample from a research objective. (1.1)
Construct a histogram with a given number of classes from a list of quantitative data. (2.2)
Find the mean, median and mode from a list of quantitative data. (3.1)
Find the range and standard deviation from a list of quantitative data. (3.2)
Find the mean and standard deviation of a frequency table. (3.3)
Find and interpret standard scores. (3.4)
Find the five-number summary for a quantitative data set. (3.4)
Find the interquartile range for a quantitative data set. (3.4)
Construct a modified boxplot (i.e. possible outliers are removed from the data set, but their locations are noted by asterisks or some other symbol.) (3.5)
Make a scatter diagram for two quantitative variables. (4.1)
Find and interpret the correlation coefficient between two quantitative variables. (4.1)
Find the equation of the least squares linear regression line between two quantitative variables and plot this line on the corresponding scatter diagram. (4.2)
Compute and interpret the value of the coefficient of determination between two quantitative variables. (4.3)
Approximate the probability of an event using the empirical approach. (5.1)
Decide whether or not a distribution is in fact a discrete probability distribution. (6.1)
Compute the mean and standard deviation of a discrete probability distribution. (6.1)
Find probabilities for a binomial experiment. (6.2)
Find the mean and standard deviation for a binomial experiment. (6.2)
Find probabilities involving a normal distribution. (7.1 – 7.3)
Find percentiles and cutoff scores corresponding to given probabilities for a normal distribution. (7.1 – 7.3)
Find a probability involving the mean using the Central Limit Theorem. (8.1)
Determine a confidence interval for a mean or a proportion. (9.1 – 9.3)
Determine the minimum sample size necessary for determining a confidence interval for a mean or a proportion. (9.1 & 9.3)
Test a hypothesis about a mean or a proportion. (10.1 – 10.4)
Test a hypothesis about two means or proportions being equal. (11.1 – 11.3)

NOTE: All sections of Math 241 will have a minimum of 3 regular examinations and a final examination, in addition to quizzes and/or homework.

EMAIL REQUIREMENT: All correspondence will be made through students' Southeastern email accounts.

DISABILITY ACCESS STATEMENT: If you are a qualified student with a disability seeking accommodations under the Americans with Disabilities Act, you are required to self-identify with the Office of Disability Services, Room 203, Student Union. No accommodations will be granted without documentation from the Office of Disability Services.

ACADEMIC INTEGRITY: Students are expected to maintain the highest standards of academic integrity. Behavior that violates these standards is not acceptable. Examples include the use of unauthorized material, communication with fellow students during an examination, attempting to benefit from the work of another student, and similar behavior that defeats the intent of an examination or other class work.